

POPULAR FALLACIES CONCERNING HYGIENE.

BY GEORGE M. BEARD, M. D.

I.

DIETETICAL FALLACIES.

THERE are more fallacies abroad among the people in regard to diet than on almost any other subject of hygiene. These are not confined to the ignorant and uneducated. They are accepted among the most learned and by those in the highest literary and social positions. These errors are due partly to the fact that the subject of food is a very difficult one, and cannot be entirely understood without some study and care.

Most of these errors, however, are the result of the false teachings of writers on health. Alcott, Graham, President Hitchcock, all sincere, honest men, but thoroughly at fault on nearly all their ideas of hygiene, exercised a powerful influence in their day, and the evil effects of their teachings still remain, and work terrible mischief.

I will briefly point out some of the errors that have been taught by these and others, and which are still abroad among the people.

In the *first* place, it is a fallacy to suppose that *people, as a rule, eat too much, and that most of the diseases of the world come from over-feeding.*

The truth is that, among all decent or civilized people, the



tendency is directly the reverse. In our country, and especially in our large cities, far more are underfed than overfed. In civilized, hard-working communities, excessive alimentation is the exception, and not the rule. Throughout our land, thousands and thousands die every year from actual starvation. Some of these unfortunates are little children whose parents are too ignorant, or too poor, to give them what is necessary to sustain life. But many of them are adults, whom hard poverty, or sad ignorance, has forced into a habit of systematic though undesigned starvation. Day after day their stomach receives less nutriment than the system demands. Day after day the vital powers slowly fade, the strength grows less, the spirits become morbid, and the face wan and dejected. Disease now steps in, attacks and carries by force some important citadel of the body, and death follows. The process is a slow one—sometimes very slow—extending, perhaps, over many years, but it is oftentimes just as sure as it is slow.

As a rule, the savages eat less than the civilized. They may gorge themselves at long intervals, like the Bushmen and Hottentots of South Africa, and the Greenlanders and Esquimaux; but between these seasons of hideous gluttony many days often intervene. The average quantity of nutriment that most of the barbarous tribes consume is unquestionably less than that of the civilized, who take three regular meals daily. Indeed, most of the wild races lead a very precarious existence in regard to food. They subsist on snails, bugs, clay, insipid or bitter fruit, unsightly worms, and other substances equally abominable, which are neither nutritious nor agreeable.

I say, then, that the civilized eat more than the savage, and that they ought to do so. The reason is clear. They work harder. They use their brains more. Labor of the brain is always accompanied by waste of tissue. It has been estimated, by Professor Houghton, that three hours of brain-work cause as important changes of tissue as a whole day devoted to mere muscular labor.

There are drones, all through society, who do nothing but live on others. There are gluttons and gourmands, all through society, who do nothing but eat and drink. But gluttons and gourmands are exceptions in civilized lands. Many children undoubtedly eat too much and too often; but they almost always break off the habit before reaching adult age.

Even among our rich and luxurious classes, the number of those who injure themselves by over-eating is far less than the number of those who injure themselves by under-eating. Rich and fashionable people use their brains very actively—oftentimes, it must be allowed, in acts of frivolity and dissipation—are usually hard-working men of business, and need more and a greater variety of food than those who do little or nothing, or who live by muscular toil alone.

In the second place, it is a fallacy to suppose that vegetable food is healthier and easier of digestion than animal.

Comparative anatomy, physiology, experience, our natural appetites, and the history of the world, all show us that man should have a mixed diet—flesh, fish, fruit, and vegetables.

The contrary doctrine is one of the most monstrous errors that ever infested society. It has carried hundreds and thousands to early graves. The popularity of this error, at one time, was partly the result of the popularity of the men who advocated it.

In this country, we love extremes, and roll them as sweet morsels under our tongues. Vegetarianism is an extreme, and therefore Americans cherished it. At the present time it is not practically advocated by any large or influential number; but there are very many who theoretically believe in the heresy, and who think that they do wrong when they eat flesh or fish. Thus they go on all their lives violating their consciences. "Woe unto the man who creates a sin!"

The truth is, that vegetables, potatoes, turnips, carrots, etc., are not only less digestible than fresh beef and mutton, but they are also less nutritious. They linger longer on the stomach, and,

being composed mostly of water, give less nutriment to the system. Therefore, many, who cannot digest vegetables at all, can eat and relish and assimilate beefsteak, mutton, lamb, chicken, turkey, etc., without difficulty. Chronic invalids and dyspeptics should, as a rule, eat largely of fresh meat and fish, and very moderately of vegetables.

It is true, however, that vegetables, bread, and fruit, are all necessary, and all should be used under the guidance of experience, and the taste of each individual.

But it must not be forgotten that more *acute* diseases—far more—arise from fruit and vegetables than from flesh and fish. Each individual must, therefore, find out for himself, by his own experience, what he can indlge in, and what he must forego.

Another fallacy, in regard to diet, is to suppose that the natural appetite is not the best guide as to the quantity and quality of our food.

It is true that the appetite does sometimes become perverted. It is true that it does become sometimes a symptom of disease. But these cases are exceptional.

Hideous doctrines have been taught on this subject. We have been solemnly told to rise from the table as hungry as when we sat down. We have been told to be always ready for a meal—in other words, to live in a state of perpetual hunger. We have been told to eat those things that we most hate, and to avoid those things that we most love—that to have a longing for any article, is the very reason why we should be denied it.

These doctrines are monstrous. They are unworthy of the nineteenth century. They are a libel on the Creator who gave us taste and appetite, in order that we might know what to eat and drink, and gave us also judgment to direct appetite and taste when the system becomes diseased.

Notwithstanding all its liability to perversion, the appetite is, on the whole, a better guide in selecting food, and in measuring its quantity, than all the books on hygiene that have ever been written.

The practice of weighing the food, which was introduced to the world by the example and teachings of Cornaro, the Italian, cannot be too strongly reprobated. It is impossible for the scales to tell us how much to eat. The quantity of food that we need depends on the amount of labor that we do, on the nature of the constitution, on our mental moods, and on the quality and variety of the food which is served.

To weigh or measure the food habitually is not only silly, unnecessary, and useless; it is actually a crime. It wastes valuable hours that should be better employed. It makes us miserable, and that fact alone is argument enough against it. It brings on indigestion and all other woes, and therefore prevents us from getting the best advantage of what we eat.

Another common fallacy, in regard to diet, is the theory that one or two kinds of food, at each meal, are more easily digested, and more wholesome, than a large and palatable variety.

Our books on health tell us over and over again that two articles at each meal are sufficient, and that we shall be liable to eat more if the table is covered with a generous variety.

My advice is emphatic and clear. Let there be as generous, agreeable, and attractive a variety at each meal as we can afford. Let the limits of that variety be determined by our purses, our tastes, our appetites, and our talent in cooking, and not by the books.

It is possible for nearly every family to have a good variety of food at each meal, or, at least, at the principal meal of the day, without great expense. Cookery is one of the fine arts. It should be made a study. We have good books on cookery at the present time, and every young wife who loves her household, and every young maiden who hopes to have a household to love, should study the best works on this subject, just as they study grammar, arithmetic, and geography in the schools; and, above all, shoud practise the art with their own hands at home.

Genius never made any lady a good cook. The art is ac-

quired by close study and patient practice, by many and repeated failures. A good cook can make a pleasant and healthful meal out of a few simple articles. A poor cook will make a wretched dinner, even with the whole market at her disposal. I hope to see the day when the art of preparing food will be taught in our schools, like other important branches; when young girls and young wives will go to the cooking-school as they now go to the dancing-hall, and when even ladies of fashion will boast of their bread and their puddings as they now boast of their acquisitions in music and French.

A variety of food is more healthful than one or two kinds, because it is more easily digested. This is a law of Nature. Appetite teaches us to combine sweet with sour, vegetables with meat, dry food with watery, etc.

A meal composed simply of dry Graham bread, or of potatoes, or of fruit even, is far, far less palatable and less digestible than a meal composed of all three varieties at once. Science and experience are here in perfect accord.

If, therefore, we must eat candy, let it either be with or just after our meals. If we must eat sweets in the evening, let us have sour fruit—apples, or lemons, or oranges—at the same time, and we shall be less injured. We should never eat a large quantity, either of sweet or of sour substances, on a perfectly empty stomach.

Still another common fallacy is, that brain-workers need less nutriment than those who live by their muscles.

This idea would never have been entertained if people had depended on their own observation and experience. But we have been influenced by false teachings and erroneous theories.

Any one who has attended associations of clergymen, or alumni meetings, or has boarded with students, has had opportunity to see that brain-workers are large eaters, as indeed they should be if they are really hard workers. The changes of tissue in the brain, that take place during study and thought, are very important and very rapid, and must be replaced by abundant food.



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II.

FALLACIES RELATING TO HEREDITARY GENIUS.

M. R. BUCKLE, in his "History of Civilization," states that we are completely "in the dark as to the circumstances which regulate the hereditary transmission of character and other personal peculiarities." In a foot-note to this passage, he uses this surprising and emphatic language: "We often hear of hereditary talents, hereditary vices, and hereditary virtues; but whoever will critically examine the evidence will find that we have no proof of their existence. The way in which they are commonly proved is in the highest degree illogical, the usual course being for writers to collect instances of some mental peculiarity found in a parent and his child, and then to infer that the mental peculiarity was bequeathed."

These assertions of Mr. Buckle probably represent the views of the great majority of the thinking minds of our day, except the very few who have given this subject special attention.

The popular ideas concerning hereditary ability are derived mainly from political or social prejudice, and are just now beginning to be revised by scientific research. The ruling classes in aristocratic communities are educated in the belief that birth alone makes the man; while, under democratic institutions, popular prejudice makes it almost a crime to have distinguished parentage.

On this subject, as on so many others, the theory and practice of society are often in direct contrast. The existence of castes, though theoretically denied, on moral and other grounds, is yet practically admitted, not only among aristocrats, but even among the middle and lower orders of society, and in republics as well as in monarchies. There are many who deny *in toto* the theory of hereditary transmission, who assert and intellectually believe that one man is just as good as another, and, with the same opportunities, may attain equal success, and that all men everywhere are born free and equal, not alone in civil rights, but in intellectual capacity. There are those who go still farther, and assert that talented and distinguished parents are *less* likely to have talented and distinguished offspring than are parents of inferior or merely average ability. If I mistake not, this is the prevailing sentiment to-day, not only of the ignorant and unthinking, but of the leading minds of our American society.

Men who would rather commit a theft than recognize their subordinate workmen on the public street, who would rather

bury their daughters than have them marry their coachmen or gardeners, who would see their children grow up in ignorance rather than allow them to attend the same school with the "common people"—men whose every-day lives continually attest the instinctive nature of caste, yet theoretically proclaim that a belief in the doctrine of hereditary transmission of intellectual qualities is only fit for monarchs and aristocrats.

In this country especially there is a deeply-rooted and almost universal prejudice against the theory of hereditary ability, although the *practical* belief in its power is every day getting a firmer hold on society.

Now, prejudice, except by a blunder, rarely leads to truth. Its almost inevitable tendency is to error. The real truth, on difficult questions of this kind, is only to be ascertained through unbiased reasoning, patient observation, and elaborate statistical facts.

I have long held that the prevailing views concerning hereditary talent are destined to be entirely revolutionized by the accumulating evidence of modern investigation.

If every quality of organic existence tends to be hereditary—if the color of the skin and hair, the contour of the features, the expression of the eye, and all the countless maladies from which we suffer, are transmitted from parents to offspring, and from generation to generation—is it not rational to infer that the quality and quantity of the brain are just as decidedly and permanently hereditary? This question is answered in general by the history of nations. Among all races, and in every climate, we find that children inherit both the quantity and quality of the brains of their immediate or remote ancestors. The brain of the negro is lighter than that of the European, and his mental and moral character is proportionately inferior, just as was true of his ancestors centuries ago. The Chinese, the Illinois, the North-American Indians, the Bushmen, all partake of the mental and moral characteristics of their respective ancestors—are, indeed, simply repetitions of the generations who have preceded them. While it is true that tribes and nations may slowly improve or degenerate in the average quantity and quality of their brain, yet these changes can only be brought about by crossing, interbreeding, or selection, and after a long lapse of time. Therefore, the best developed or most degenerate races attain their position only by inheritance. Both the Europeans and the Africans are the types of their ancestors, and represent the accumulated virtues or vices of all who have preceded them. If, now, the mental and moral character is so directly and permanently transmissible that races and nationalities maintain their peculiarities as well as their general mental character, from century to century, it must necessarily follow that distinct *branches and families* may likewise preserve their individuality, and perpetuate the leading features of the mind. This logical deduction is justified by statistics.

Now, in order that statistics on this subject may be of real value, these three conditions are essential:

1. They should represent a large number of names and a variety of talent. In science, isolated cases prove but little. Other conditions being the same, the value of statistics bearing on this will be in proportion to their extent. Every one is familiar with separate instances that go to prove either the affirmative or the negative of this question; but the few cases that happen to fall under the observation of any single individual are not sufficient to establish any principle.

2. They should be extended over a long period of time. To those who are familiar with the law of "reversion," the importance of the element of time in our statistics will be fully apparent.

Intellectual qualities, like all other characteristics, are liable to skip one or more generations. The talent of parents may skip their own immediate offspring, and reappear in their grandchildren. Diseases and physical peculiarities of all kinds are subject to the same law of reversion.

3. They should include chiefly the names of the dead rather

than of the living. This condition is a necessary inference from the last. It is impossible to establish any principle from merely studying the celebrities that are now living, for we know not what the character of their remote descendants will be. It is therefore necessary to go back at least one or two centuries, and, the farther back we can trace any family, the more valuable will be our statistics.

Against all the statistics that may be presented, it will be argued that the heirs of illustrious parentage have peculiar opportunities of education and social influence to develop their latent powers, and raise them to high positions; and that, especially in an aristocratic country, the statistics must give a false impression of the inherent capacity of families. To this objection, it need only be replied that, while education and social influence refine and cultivate, they cannot *create* an original mind, nor make a great man out of a small one.

But, in order to make the truth on this subject still more apparent, and to settle the question beyond disputatious, let us examine into the history of the United States, where all are created free and equal, and where all, without regard to birth or social standing, have the right and the opportunity to develop to the utmost the capacity that is in them—where, indeed, education and family even are oftentimes a hinderance, more than an aid, to advancement.

One year since, I took the pains to go over the volumes of the "American Cyclopaedia," and to put down indiscriminately the names and lineage of three hundred Americans, distinguished within the past of our country's history, with the object of ascertaining what proportion were connected with talented and distinguished families, as compared with those who sprang from humble origin, and were in no way related to any who were likewise distinguished.

The results of this statistical examination were most surprising to me, and must be equally so to all who have not directed their attention to this subject, and pursued a similar method of investigation.

Out of this list of three hundred Americans who have made their names illustrious in war, statesmanship, science, literature, art, oratory, invention, business, and financing, over two hundred—*more than two-thirds*—had distinguished relatives. Over one hundred were fathers and sons, or grandfathers and grandsons; nearly fifty were brothers and sisters. There are several families (some of whose members are living), each of which has been honored by a number of distinguished names. The Lees and Masons in Virginia, the Alexanders in New Jersey, the Astors in New York, the Winthrops, the Lowells, the Prescotts, the Adamses, and the Danas in Massachusetts, together with the families of Beecher and Booth, have already given *nearly fifty* illustrious names to our national history. An average of *four* talented and distinguished members in these eleven families, within the short period of our history, would seem to prove to the satisfaction of every one that intellectual qualities are, at least, capable of being transmitted.

The suggestiveness of these statistics is more apparent when we consider the youth of our country, as compared with the Old World, and the fact that our population is continually being replenished and modified by immigration. In this list of three hundred names were included a number of living notabilities, whose children or grandchildren may hereafter rival their ancestors in distinction. It should also be considered that many of these individuals probably number among their near relatives many who, though unknown to fame, were yet possessed of superior talents, that, under different circumstances, might have brought them into notice, and secured their immortality.

Any one, who will undertake the labor of studying the biography of American geniuses in the manner and by the rules I have here indicated, must, I think, become convinced that the popular impression on this subject of hereditary ability is entirely erroneous. Any one who will investigate and reason on

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the subject philosophically, in the light of what is now known of the variation of animals and plants, of the history of animated Nature, and of the different races and classes of men, must also become theoretically convinced that talent of all kinds is hereditary; that, in the very nature of things, it could not be otherwise, and will wonder that a contrary opinion could ever have been entertained by rational or thinking minds.

Special aptitudes for music, for mathematics, for business, for mechanics, and for literature, are also markedly hereditary.

That literary talent may run in families is proved by the history of the Coleridges, the Sheridans, the Kembles, the Brontës, the Hallans, the Kingsleys, the Disraelies in England, and by the Beechers and the Adams in our own country. There are very few who have not known families who have perpetuated a genius for drawing, music, mechanics, or medicine. The Hutchinson family illustrate very strikingly the transmissibility of the singing power; but there are numberless households throughout the land in whom the gift of song is just as decidedly an hereditary quality, though perhaps in a much less degree.* Sobriety and stability are often markedly hereditary. A medical friend informs me that, of fifty thousand American members of the family whose name he bears, five thousand were deacons. The silly superstition in regard to the "seventh son of the seventh son" was undoubtedly based on the observed transmission of the genius for healing. Really, if we look closely enough into this matter, we shall find that there are very few families or branches of families which do not possess, at least in a slight degree, some intellectual heirloom. The common impression, that a son is more likely to inherit the intellectual qualities of his mother than of his father, probably has a basis of truth. It is very certain that the sons of great men who marry inferior wives frequently exhibit only ordinary ability, while, on the other hand, it is undeniably true, that very many great men have had superior mothers.

Mr. Galton,† whose researches were mentioned in one of the earlier numbers of this JOURNAL, states that, of thirty-nine Chancellors of England, sixteen had eminent kinsmen. The entire list he collected embraced over sixteen hundred names of illustrious and original characters. Of these, one out of six were near male relationships. Out of every one hundred distinguished fathers, eight had sons who were equally distinguished. Out of every one hundred eminent men, five had famous brothers. The most important and telling fact derived from these statistics is, that one-twelfth of distinguished fathers had distinguished sons.

This fact seems all the more significant when we consider that very many of the great men of English history were bachelors, and that, of those who married, not more than one in three had children who survived them.

In collecting statistics on this subject, there is great danger of error by assuming that men who hold prominent official positions are necessarily men of talent and genius. We know very well that in this country very few of our really gifted men engage in politics at all, and only in exceptional cases are they rewarded by high positions under the Government. In collecting my own statistics, I endeavored, so far as possible, to avoid this error, by including only the names of those who were acknowledged to be persons of superior abilities.

I fear lest the value of Mr. Galton's excellent statistics may be diminished by this error.

Mr. Galton, furthermore, states that, out of six hundred and five notabilities who flourished between 1450 and 1853, there were one hundred and two relationships. Of eighty-five illustrious living names, twenty-five are relatives, twelve are brothers, and eleven are fathers and sons. In Bryan's "Die-

ctionary of Painters," there are three hundred and ninety-one names. Of these, sixty-five are near relatives, thirty-three are fathers and sons, and thirty are brothers.

From these last figures it would appear that, not only intellectuality in general, but also special aptitudes were markedly hereditary. Out of fifty-four distinguished musicians, there were also a number of relatives.

My friend, Mr. J. Markinfield Adey, is now engaged in the preparation of a work on "Eminent Living Americans," which will contain two thousand names. As soon as the work is in print, I shall endeavor to go through the list, with a view to the still further elucidation of this question of hereditary genius; but, for the reasons above given, any list of living celebrities, however large, must be vastly inferior, for this special statistical purpose, to a much smaller list that covers a number of generations.

The question now arises whether this rule will work both ways. Is stupidity, as well as genius, subject to the law of inheritance? Does foolishness, like talent, "run in families?" To this question, I think, there can be but one answer. Even those who doubt the hereditability of genius must concede that inferiority and indolence are certainly transmitted from generation to generation, and are retained, not only in nations and in classes, but in tribes and families.

It is true that many distinguished men and women have descended from parents who were more or less obscure; but obscurity is not necessarily inferiority. Those who study biography closely and patiently will find that the number of really superior minds who have descended from inferior stock is surprisingly small.

How often do the Irish peasantry or the "white trash" of the South give to the world a really superior genius in any important department? How many of our leaders in literature, in art, in science, in statesmanship, or even in war, have arisen from these lower orders of society? The depressing influences of circumstances are not alone sufficient to account for the universal inferiority of the offspring of the Five Points and the peat-bogs of Ireland; for, even when the children born in these places are educated and sent to the country, they rarely attain any thing more than average respectability. On the other hand, many of our ablest men were the sons of farmers, because our farms are often tilled by the best intellects of the land.



* Mr. G. H. Lewes ("Physiology of Common Life," vol. II., p. 536) mentions the family which boasted Jean Sebastian Bach as the culminating illustration of a musical genius which, more or less, was distributed over three hundred Bachs, the children of very various mothers."

† *Macmillan's Magazine*, for July and August, 1863.